



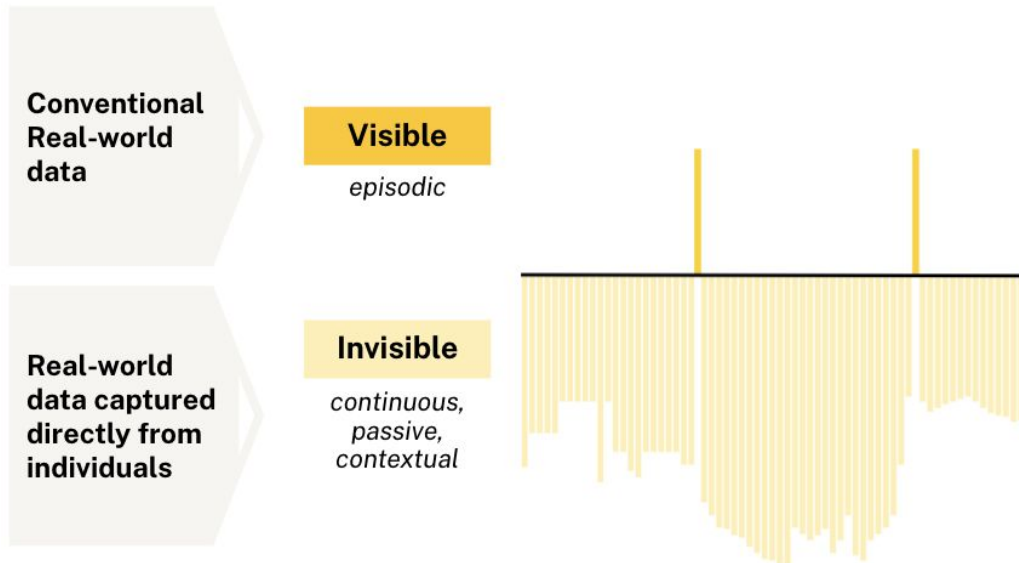
Better data, better outcomes: Migraine

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Director, Research Science

Agenda

- What are you currently missing?
- Migraine Experience Survey
 - Overview of survey
 - Insights into diagnosis and treatment
- MigraineSmart
- Use cases & questions

The richest data from individuals is mostly invisible to the health system



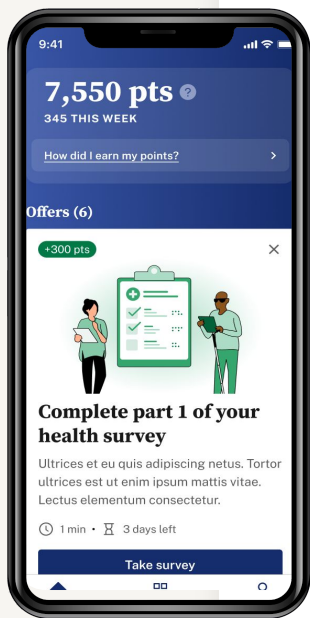
Data about health in everyday life provides a more comprehensive view of:

- Disease progression
- Treatment impact
- Symptom frequency and burden
- Quality of life and activities of daily living
- Factors influencing outcomes including behavior, attitude, and environment

Leading to

- More effective and inclusive research
- Identification of new biomarkers
- Enhanced evidence of treatment benefit
- Better informed clinical care guidelines

Migraine Experience Survey Overview



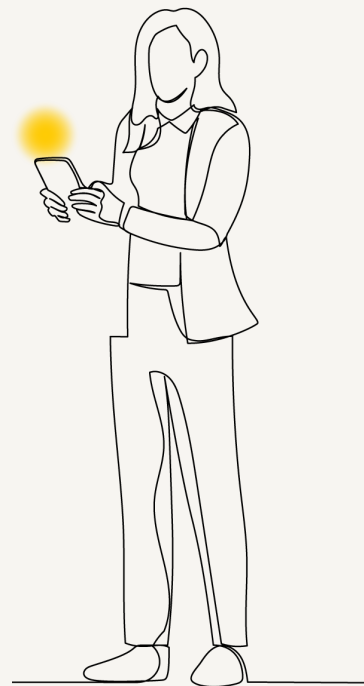
Objective: Understand real-world experiences of migraine including symptom frequency and severity, activity and sleep, care experiences, and treatment initiation

Setting: Open to any member of the Evidation Community — the largest, most diverse virtual research cohort in the U.S. with nearly 5 million people

Scale: 21,380 Evidation Members enrolled in the survey

Timing: Findings presented are from January to December 2023; survey ongoing

Privacy and trust: All participants explicitly opted in to sharing their responses and historical activity and sleep data in aggregate for this research program



Engaging a community of individuals with migraine over time

Over 21,000 Evidation Members engaged with the Migraine Experience Survey to better understand their real-world experience with migraine, including symptom frequency and severity, medication use patterns, and experience with healthcare providers.



*January 2023 cohort

Passively collected wearable data where available



52,749 total surveys

covering OTC medication use/alternative therapies, lifestyle changes, and symptom frequency and severity in the past 3 months

- ▶ Reports of **11,590** in-person HCP visits and **2,735** telehealth HCP visits
- ▶ **4,652** prescription treatment changes
- ▶ **16,000+** have activity data connected to the platform

Underdiagnosis and undertreatment in migraine

Background



- One study suggests that only about 5% of people with chronic migraine are correctly diagnosed and prescribed recommended medication ¹
- Another demonstrated that only 41% of individuals with migraine eligible for preventive treatment are currently taking it ²

Why is this important?



- Underdiagnosis and undertreatment contribute to poorer quality of life and lost productivity among people with migraine
- However, additional research is needed to understand treatment non-initiation and potential strategies to address it

How can direct-to-participant data help?



- Our data showed that 41% of individuals did not see any healthcare provider for migraine in the past year and thus would not be represented in claims data or EMR data
- Detailed symptom diaries capturing patterns of migraine symptom type, frequency, and severity can be paired with social determinants of health data to better understand predictors of treatment seeking
- Wearable data can be used to identify subgroups who experience disability due to migraine and are not currently taking treatment

1. Dodick DW, Loder EW, Manack Adams A, et al. Assessing Barriers to Chronic Migraine Consultation, Diagnosis, and Treatment: Results From the Chronic Migraine Epidemiology and Outcomes (CaMEO) Study. *Headache*. 2016;56(5):821-834
2. Lipton RB, Nicholson RA, Reed ML, et al. Diagnosis, consultation, treatment, and impact of migraine in the US: Results of the OVERCOME (US) study. *Headache*. 2022;62(2):122-140..

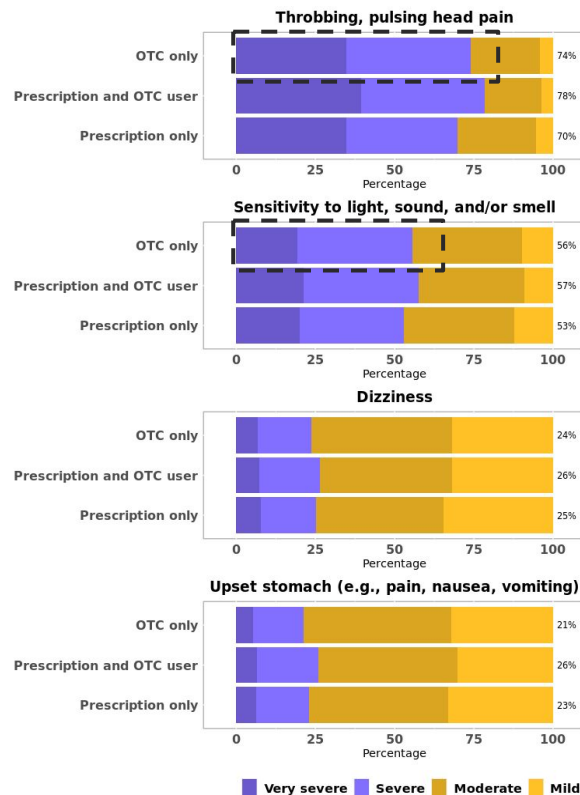
Symptom severity reports reveal individuals who may benefit from treatment

11,240 individuals reported at least 4 migraine days per month and **could be eligible** for preventive treatment

Yet, 31% used only OTC medications to manage migraine. Of these individuals 50-75% experienced severe throbbing and sensitivity to light, sound, and/or smell

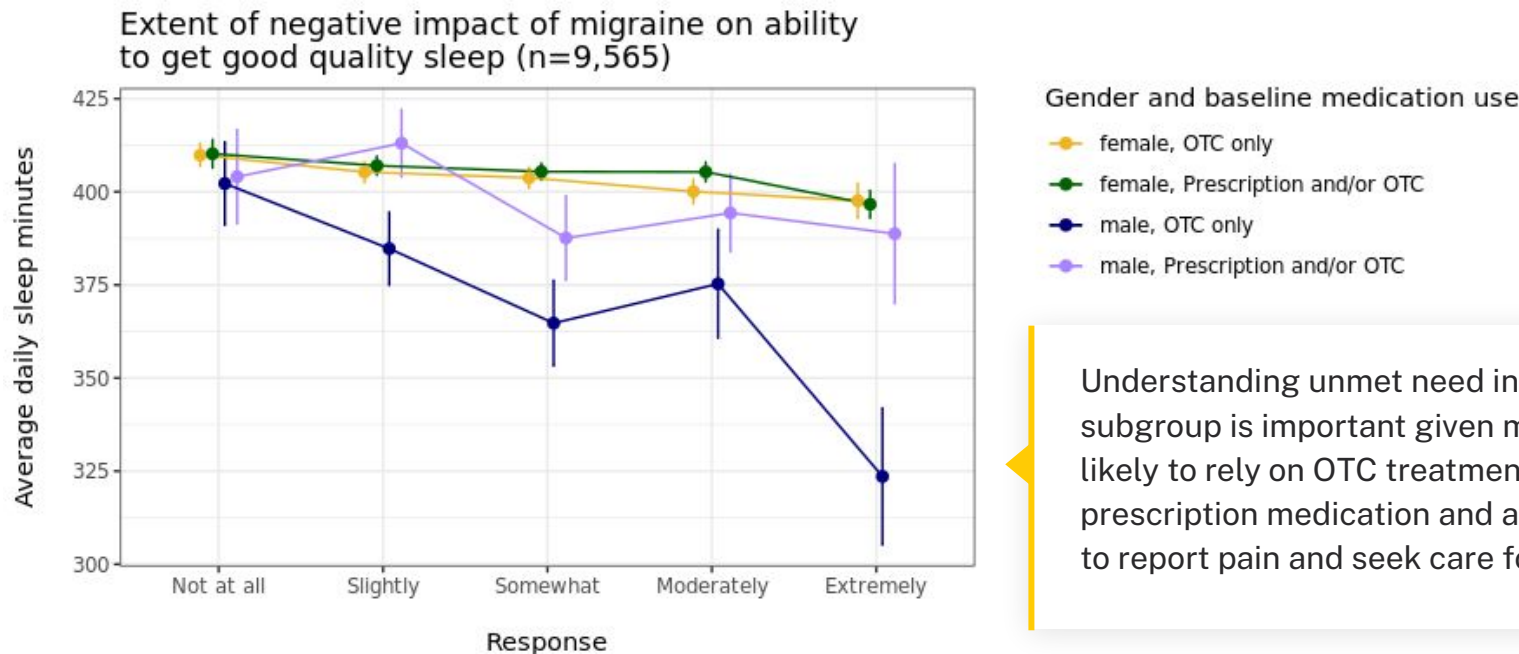
Within this 31%, exploratory analysis showed that individuals only taking OTC medications were:

- 68% less likely to have a neurologist as their usual provider compared to prescription users (more likely to see a general practitioner instead)
- 41% more likely to be an adult under 44 yo than middle age adults (45-59 yo)
- Twice as likely to not have health insurance



Wearable data can help identify subgroups with unmet needs

Although men and women *self-report* similar negative impacts of migraine on their sleep, men who rely solely on OTC treatment sleep fewer minutes than those who take Rx medication, highlighting their unseen burden



Understanding unmet need in this subgroup is important given men are more likely to rely on OTC treatment instead of prescription medication and are less likely to report pain and seek care for migraine³

3. Scher AI, Wang SJ, Katsarava Z, et al. Epidemiology of migraine in men: Results from the Chronic Migraine Epidemiology and Outcomes (CaMEO) Study. Cephalalgia. 2019;39(2):296-305.

CHALLENGE #2

Individuals cycle through treatments before finding a regimen that works for them

Background



- 50% of individuals do not find Calcitonin Gene-Related Peptide Receptor medications to be effective in managing migraine ⁴
- 2 to 3 months is estimated as the average time before people living with migraine discontinue oral migraine prevention medication ⁵

Why is this important?



- Early identification of treatment non-response, satisfaction, and potential for premature discontinuation is key for addressing migraine burden

How can direct-to-participant data help?



- Daily symptom diaries can be used to track migraine outcomes while individuals start a new medication class and identify those who need additional support
- Longitudinal data can reveal average trends in medication effectiveness in the real world, where treatment adherence and external factors less strictly controlled

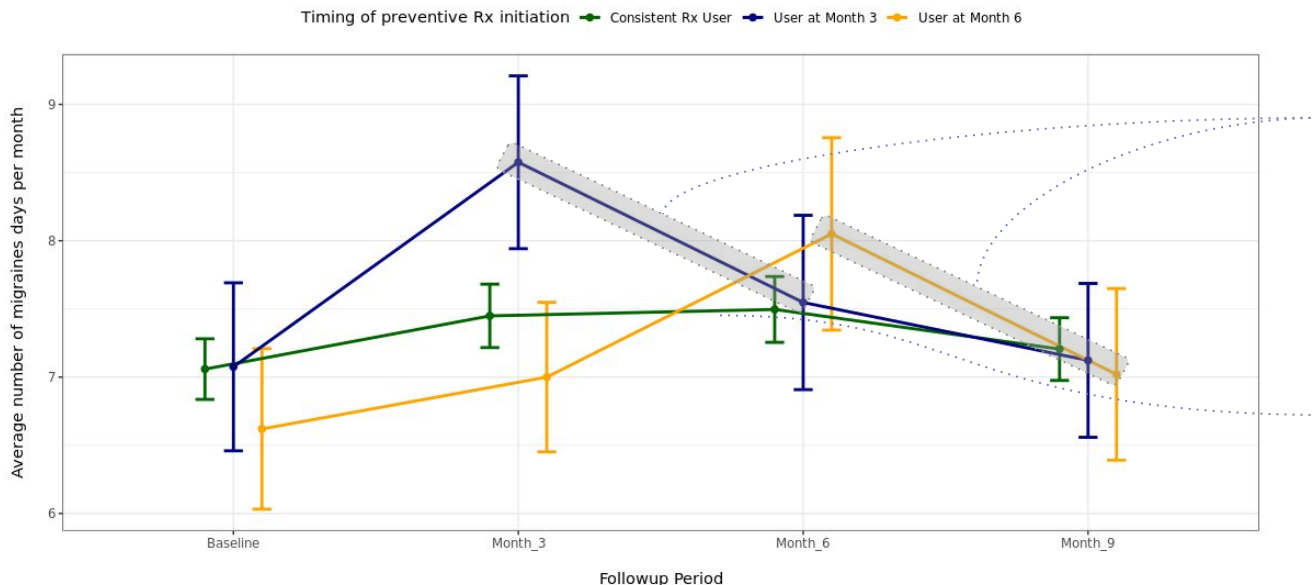
⁴ Muddam MR, Obajeun OA, Abaza A, et al. Efficacy and Safety of Anti-calcitonin Gene-Related Peptide (CGRP) Monoclonal Antibodies in Preventing Migraines: A Systematic Review. Cureus. 2023;15(9):e45560.

⁵ Hepp Z, Dodick DW, Varon SF, et al. Persistence and switching patterns of oral migraine prophylactic medications among patients with chronic migraine: A retrospective claims analysis. Cephalalgia. 2017;37(5):470-485.

Longitudinal symptom reports illustrate trends in treatment response in real world settings

Individuals experienced increased migraine frequency prior to starting preventive medication with significant reductions in the next 3 months

Thinking back over the past 3 months, on average, how many days per month did you experience a migraine?



On average, there are statistically significant reductions in number of headache days within 90 days of treatment initiation

Average number of headache days remains stable among those who reported consistent use of preventive medication

*Preventive Rx use refers to any combination of beta blockers, antidepressants, anti-seizure medications, neuromuscular blockers, CGRP-injectables

Real world experience & support: MigraineSmart

Harnessing survey data, electronic participant reported outcomes (ePROs), wearable data, and evidence-based content to help individuals better understand and manage their migraines.



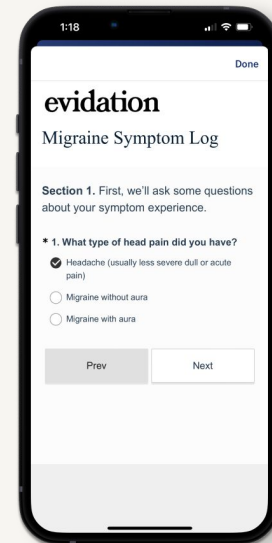
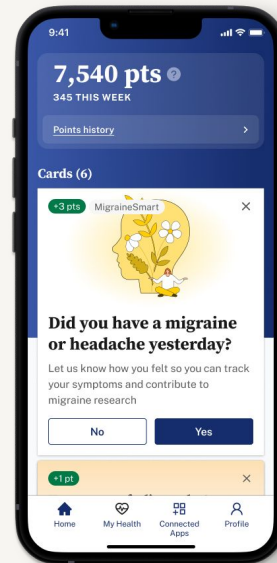
Daily monitoring: Simple daily migraine “1-click” check-in



Follow-up surveys: Quick survey to capture severity, symptoms, triggers, and medication use.



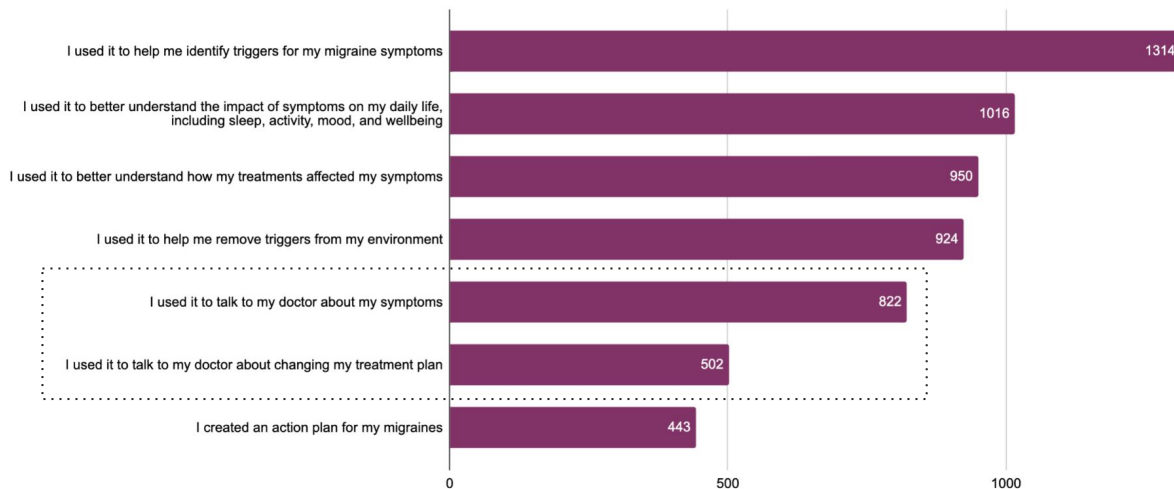
Feedback to participants: Get weekly insights and a monthly report aligning symptom logs with wearable data to see the relationship between symptoms and daily activities.



MigraineSmart participants find the program valuable

Participants use the daily logging and the monthly reports to better understand their condition and communicate with their care team.

How have you used your monthly reports?



"I use it to track the number of days I'm having symptoms"

"I use to help understand frequency and be more conscious"

"Has helped me overall better understand my migraines as a whole and more aware of non head pain symptoms that occur early"

These surveys and programs serve as a springboard for more detailed views of the patient journey and identifying individuals for further study

Patient Experience Datasets



- Integrate survey and wearable data with claims or EHR to better understand healthcare utilization and build detailed patient journeys, including the patient experience in between healthcare visits and potential confounders in your analysis

[Learn more](#)

Patient Insights



- Identify individuals experiencing specific constellations of symptoms and explore cohort specific-challenges and unmet need
- Identify individuals who recently reported changes in medication or symptom progression to further study drivers

[Learn more](#)

Real-World Studies



- Define subgroups for enrollment in clinical trials of new digital therapeutics or medication
- Launch prospective study with higher frequency data collection to better understand day to day dynamics of migraine

[Learn more](#)

Questions

For additional information
email us at partner@evidation.com
or contact us here:

